

Enhancing Social Experiences and Interactions through Gamification:

# **Barmband**

Project Report

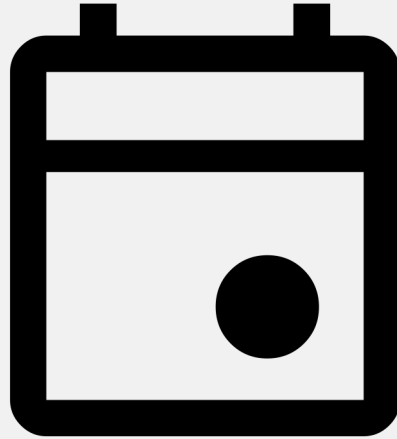
**Vision**

# Vision

- Talking to strangers can be hard
- Icebreaker to promote interaction
- Gamification for motivation
- Opt-in
- Scalability

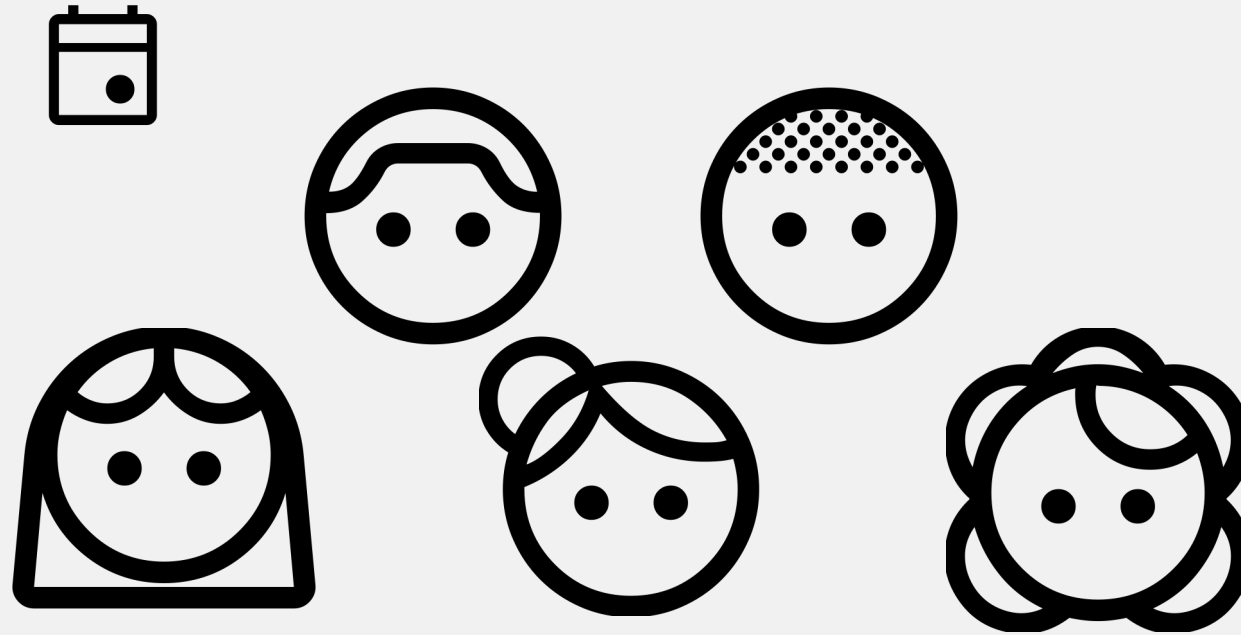
# Use Case

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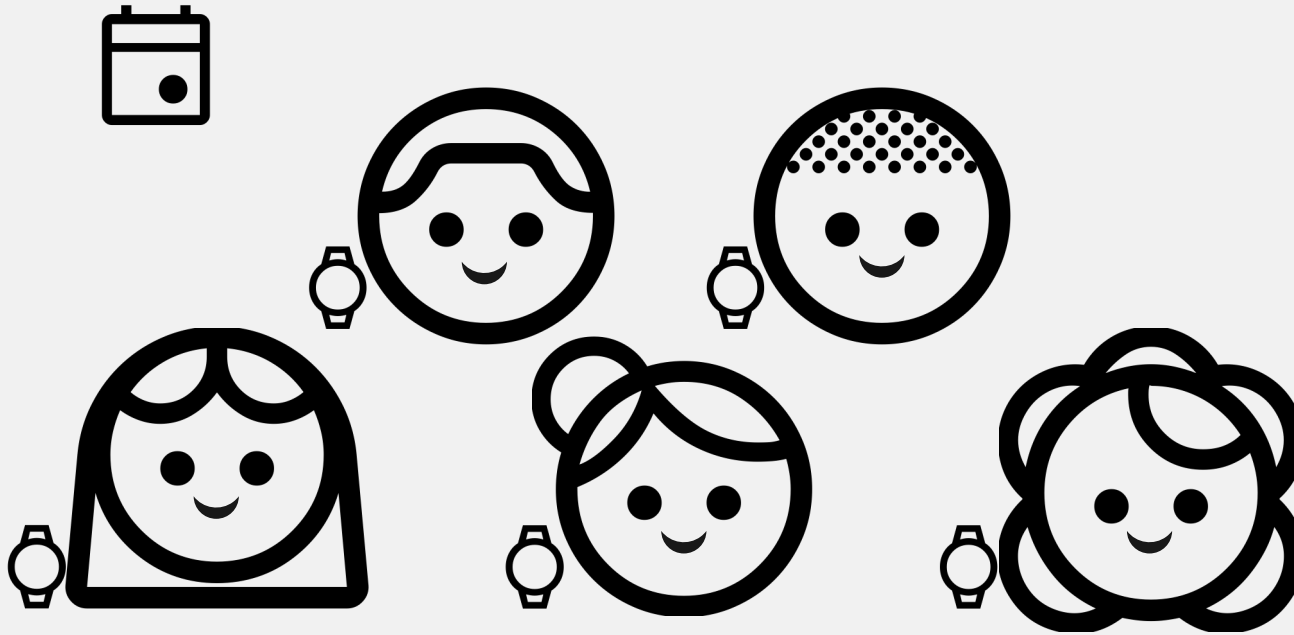


e.g. first week

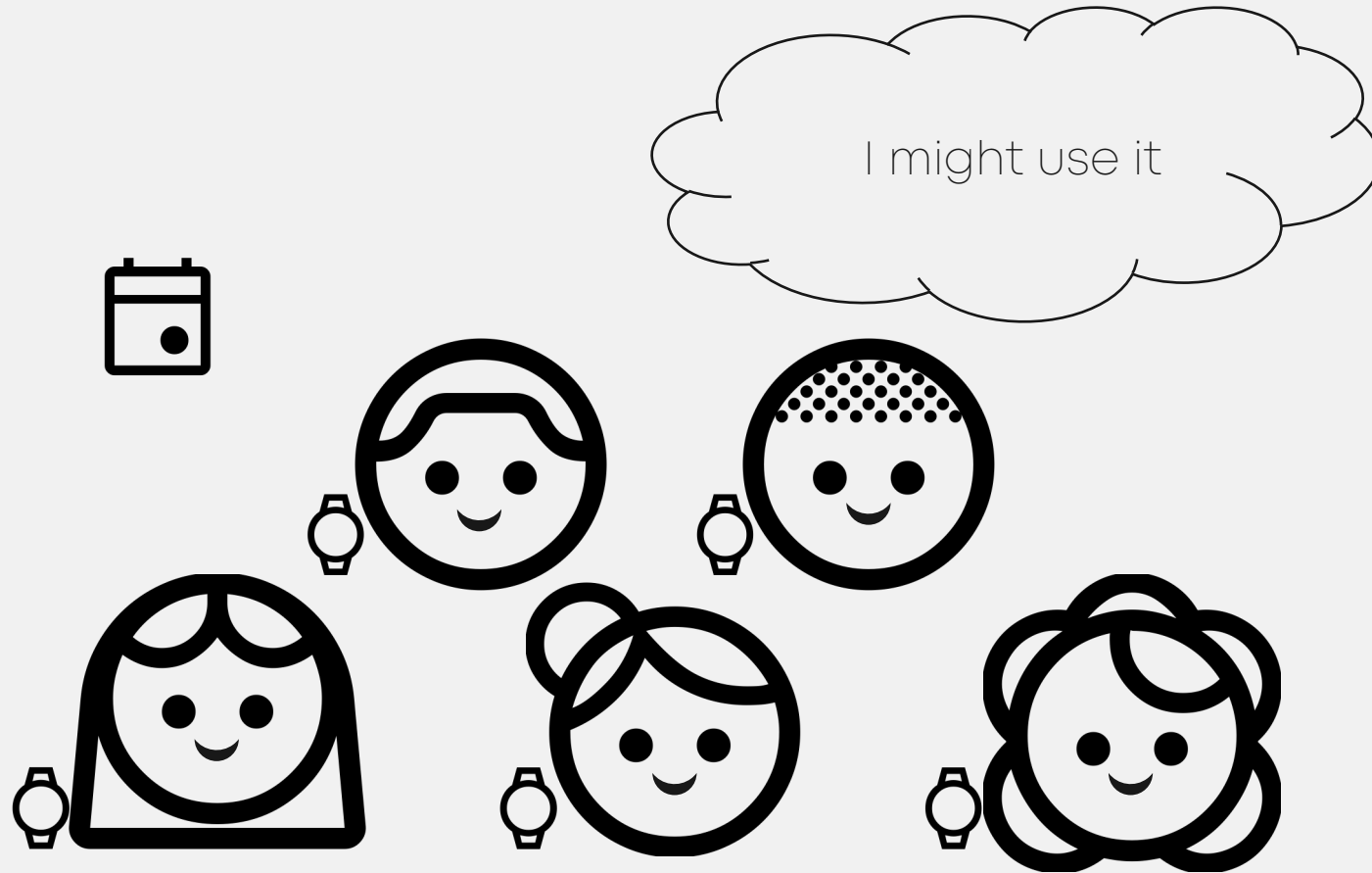
# Use Case



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# Use Case





**Infrastructure**

# Infrastructure

Barmband

MQTT

Bandcommand

# Barmband

## BOM

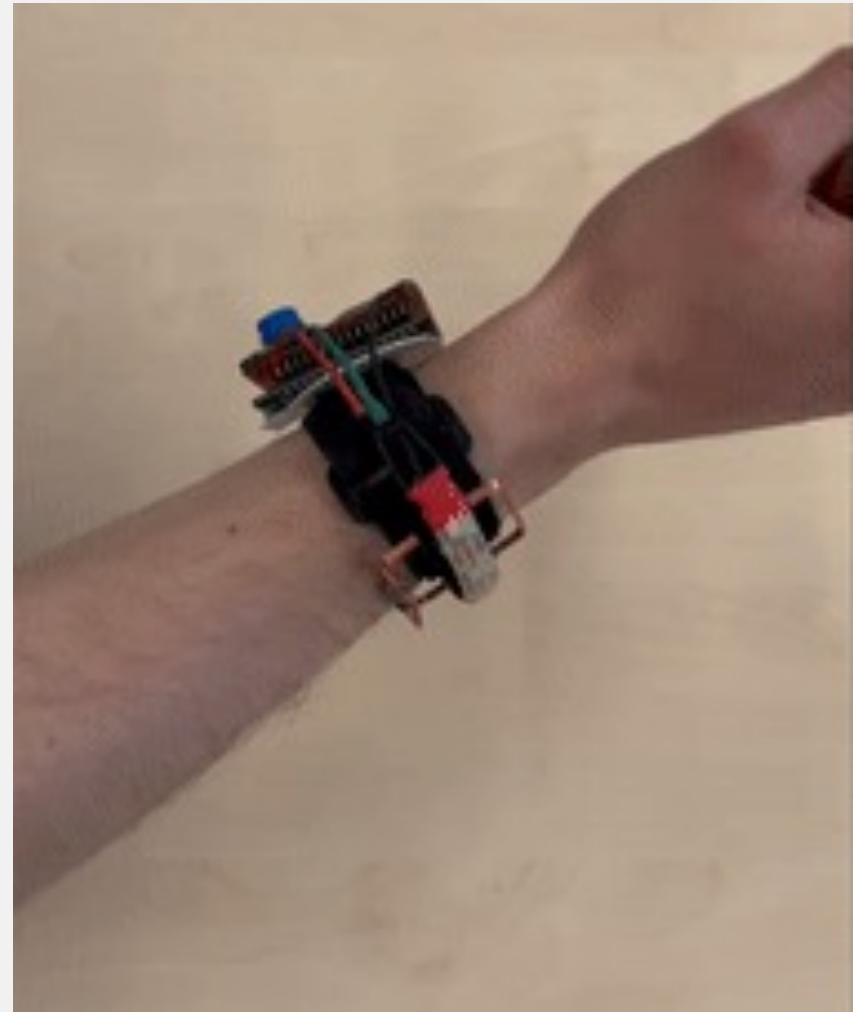
ESP32

RDM6300

WS2812

Velcro strips

Powerbank



## Bandcommand

- Management software written in go
- Implements a MQTT client
- Handles the registration of Barmbands
- Parses MQTT messages
- Informs Barmbands about found pairs
- Determines the challenge color of Barmbands

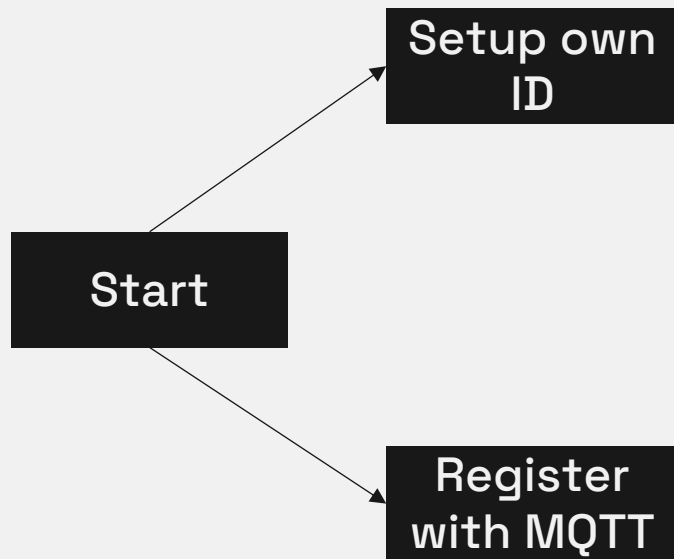
# MQTT

- Communication link between Barmband and Bandcommand
- De facto standard for machine-machine communication
- Supports different quality of service levels (QoS)
- Messages are easy to debug
- Topics: setup, challenge, logging

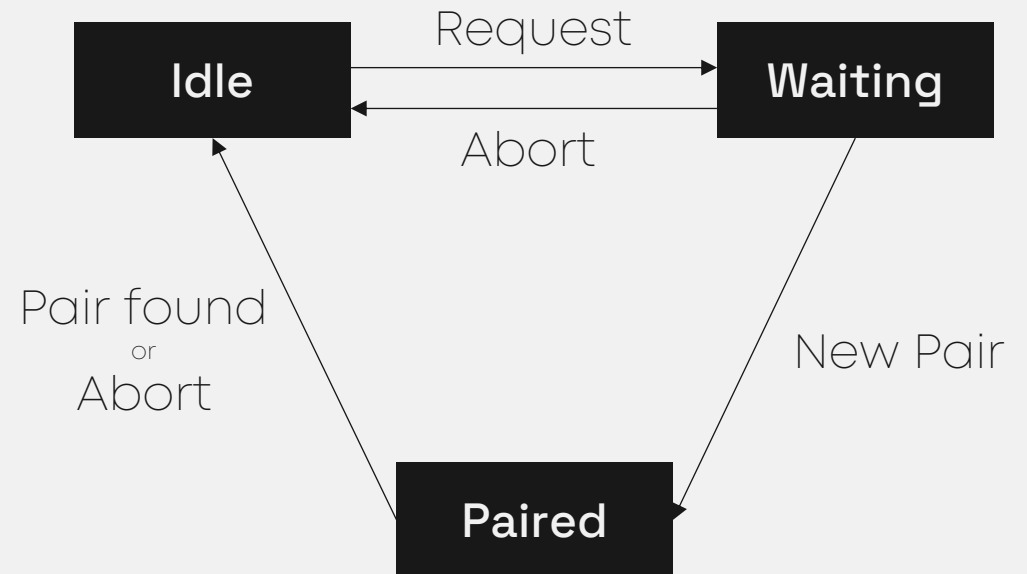
**How it works**

# How it works

## Setup



## Game Loop

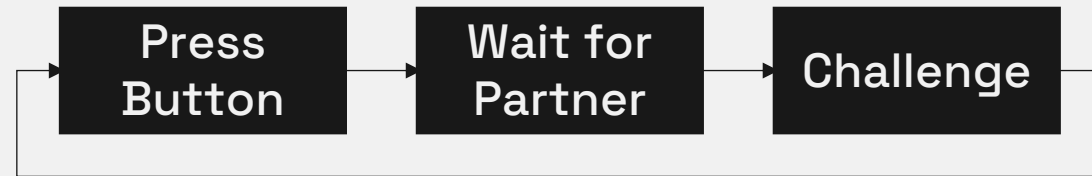


# How it works

## Preparation

Connect to WLAN  
Setup MQTT Broker  
Register with MQTT

## Barmband



## Bandcommand

Register new  
Barmbands

Draw new  
pairs

Resolve  
challenges



# Limitations

# Limitations

Fragility

Form Factor

Feedback

Health Checks

Power Source

# Next Steps

# Next Steps

- Rework RFID setup
- User Tests
- Power Supply
- Form factor
- Better User Feedback
- UI app
- Case
- Authorization